

REMARKS/ARGUMENTS

Applicant responds herein to the Office Action dated January 9, 2007.

Claims 1, 2 and 4-6 are the claims currently pending in the present application.

Objection to the Drawings

The Drawings are objected to on the ground that the feature “additional rotation mechanism” claimed in claim 5 is not shown.

An example of an “additional rotation mechanism” is shown in Fig. 4 as joint portion 31. In this embodiment, the tip of the endoscope 4 can be made immovable in the direction of the optical axis and movable only in the plane perpendicular to the optical axis, thus preventing the stereoscopic camera from becoming out of focus after the observation position is changed, as further described on pages 16-19 of applicant’s disclosure. Thus, joint portion 31 includes L-shaped couplers 34 and 35 secured to the tips of the link arms 32 and 33 of the ball shaft 21, respectively (applicant’s disclosure, page 16, lines 19 - page 17, line 1).

The link arms 32 and 33 are coupled to the joint portion 31 so that they can rotate about the axis 08 of the joint shaft 36.

A spring holder 37 is secured to an end of the joint shaft 36. Four plate springs (urging means) 38 are inserted in the spring holder 37. A male screw portion is provided on the other end of the joint shaft 36. A nut 39 is screwed on the male screw portion. A washer 40 is provided at the slide portion between the L-shaped couplers 34 and 35. When the nut 39 is fastened, the urging force of the four plate springs 38 is exerted upon the slide portion between the L-shaped couplers 34 and 35 and washer 40, so that the link arms 32 and 33 can rotate about the axis 08 of the joint shaft 36 by an appropriate sliding frictional force. (Applicant’s disclosure, page 17, lines 4 - 18).

Thus, the embodiment illustrated in Fig. 4 shows an additional rotation mechanism, because it is a rotational mechanism additional to the rotation mechanism 19 and the ball joint 13 shown in Fig. 2. Accordingly, no amendment to the Drawings is necessary.

Rejection of Claims 1 and 5 under 35 U.S.C. § 112, First Paragraph

Claims 1 and 5 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement on the ground that applicant’s disclosure fails to describe the subject matter claimed in claims 1 and 5 in a way to reasonably convey to one skilled in the relevant

art that the inventors had intellectual possession of the claimed invention with respect to which element (i.e. engagement unit) disengageably engages the joint portion.

Claim 1 is amended to clarify that the structure previously denoted “joint portion” in claim 1 is not referring to the joint portion 31 shown in Fig. 4. This structure is now called “movable portion” in claim 1. The movable portion of claim 1 is disengageably engaged by the engagement unit and is adapted to allow movement of the instrument when the engagement unit is mechanically disengaged from the movable portion. This would have been readily understood by a person of ordinary skill based on applicant’s disclosure.

As described for example at page 12, lines 9-26 of applicant’s disclosure, the electromagnetic brake release button 17 of the stereoscopic camera 8 activates/deactivates the first to fourth electromagnetic brakes 15a1 to 15d1 and electromagnetic brake 13a. Thus, parallel link arm unit 11, extension arm 12 and ball joint portion 13 of the scope holder 10 may be moved when these electromagnetic brakes are disengaged. Further, according to an aspect of applicant’s invention, after guiding endoscope 4 to the desired observation position, the first to fourth electromagnetic brakes 15a1 to 15d1 and electromagnetic brake 13a are again operated by the surgeon’s hold of the electromagnetic brake release button 17 being loosened. As a result, the endoscope 4 is switched to the locked state in which the endoscope 4 does not spontaneously move at the observation position.

Thus, the terms “disengageably engage” and “disengaged” as used in claim 1 are clear based on applicant’s disclosure, and a person of ordinary skill would have understood that applicant had intellectual possession of the claimed subject matter.

With respect to the additional rotation mechanism claimed in claim 5, please see the above-set forth response to the Drawings objection.

Rejection of Claims 1, 2, 4 and 6 under 35 U.S.C. § 102

Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. § 102 as being anticipated by Takahashi, U.S. Patent No. 5,689,365. Reconsideration of this rejection is respectfully requested.

For at least the following reasons, claim 1 is neither anticipated by nor obvious from the cited art. By way of example, independent claim 1 requires “a rotation mechanism . . . having a

rotary shaft” such that the rotary shaft is “operable to rotate even when the engagement unit is engaged with the at least one movable portion.”

Takahashi discloses a stereoscopic-vision endoscope which allows adjustment during viewing by rotation of the operation unit 3 (Fig. 7) relative to the insertional part 2, by rotating the rotary unit 16 relative to the fixed main optical system 14 of the endoscope (Takahashi, column 7, lines 41-46). Thus, Takahashi addresses the problem that, when using a conventional stereoscopic vision endoscope, the viewer may be confused when the direction of the image is inconsistent with the direction of the region to be viewed (Takahashi, column 2, lines 44-64), and discloses an imaging unit coupled to the proximal end of the insertional part, such that the imaging unit can be rotated relative to the insertional part to correct the direction of images viewed (Takahashi, column 3, lines 30-37).

Takahashi does not disclose or suggest a rotation mechanism with an independent rotary shaft which can rotate even if the engagement means is mechanically engaged with the at least one movable portion. First, Takahashi does not disclose or suggest an engagement unit that engages with a movable portion. That is, Takahashi does not disclose or suggest a support unit with a movable portion that engages with an engagement unit. The Examiner alleges that reference numeral 2 of Fig. 7 of Takahashi discloses a support unit. However, Takahashi makes clear that reference numeral 2 is the insertional part housing the main optical system 14, the rotary unit 16 and other optical and camera elements (Takashi, column 7, lines 8-46).

Further, since Takahashi does not disclose or suggest a movable portion, Takahashi is incapable of disclosing or suggesting a “rotary shaft operable to rotate even when the engagement unit is engaged with the . . . movable portion,” as *inter alia*, required by independent claim 1.

Among the problems recognized and solved by applicant’s claimed invention is that a surgeon or other operator of an endoscope may wish to adjust the stereoscopic view without disturbing the insertion point or other orientation of the stereoscopic endoscope system. According to an aspect of applicant’s claimed invention, the rotary shaft may be rotated even when the remaining movable portions, including the movable portion of the support unit, are locked into a position. The cited art does not disclose or suggest the problems recognized and solved by

applicant's claimed invention. Therefore, Takahashi does not disclose or suggest the recitations of independent claim 1.

According to an aspect of applicant's claimed invention, a movable portion and an engagement unit adapted to disengageably engage with the at least one movable portion is provided, and further, a rotation mechanism comprising the rotary shaft operable to rotate even when the engagement unit is engaged with the at least one movable portion is also provided. For example, as shown in Fig. 2, a rotation mechanism 19 is provided in the support unit which includes a rotary shaft that may rotate even when the engagement unit is engaged. In addition, Fig. 1 illustrates the electromagnetic brakes 15a1 to 15d1 and the electromagnetic brake 13a which when released allow the engagement unit engaging with the movable portion to move the instrument by means of the rotary shaft 18 which has a screw hole 23 into which screw portion 22 of the ball shaft 21 is screwed to prevent movement of the instrument when the engagement unit is mechanically engaged to the movable portion, because the ball shaft 21 is kept immovable.

Claims 2, 4 and 6 depend from independent claim 1 and thus incorporate novel and nonobvious features thereof. Accordingly, claims 2, 4 and 6 are patentably distinguishable over the prior art for at least the same reasons.

Rejection of Claims 1-3, 5 and 6 under 35 U.S.C. § 103

Claims 1-3, 5 and 6 are rejected under 35 U.S.C. § 103 as being obvious from Mizuno et al., U.S. Patent No. 6,120,433 in view of Takahashi. Reconsideration of this rejection is respectfully requested.

Mizuno discloses a surgical manipulator system in which a medical device is held by a slave manipulator that can be removed from a body cavity and a controller that moves the slave manipulator or the medical device, or both, such that the axis of the medical device passes a fulcrum fixed in space even before the medical device is inserted into the body cavity (Mizuno, Abstract).

Mizuno does not disclose or suggest a support unit having a rotary shaft, a movable portion and an engagement unit such that the rotary shaft is operable to rotate even when the engagement unit is engaged with the at least one movable portion, as *inter alia*, required by independent claim 1. That is, the cited art does not disclose or suggest a support unit that includes an engagement

unit adapted to disengageably engage a movable portion, as well as a rotary shaft as part of the support unit, such that the rotary shaft may be rotated even when the engagement unit is engaged with the movable portion. Therefore, Mizuno and Takahashi, even taken together in combination, do not disclose or suggest the recitations of independent claim 1.

Claims 2, 3, 5 and 6 depend from independent claim 1 and thus incorporate novel and nonobvious features thereof. Accordingly, claims 2, 3, 5 and 6 are patentably distinguishable over the prior art for at least the same reasons.

In view of the foregoing discussion, reconsideration of the rejections and withdrawal of the objection are respectfully requested and allowance of the claims of the application is believed to be warranted. Should the Examiner have any questions regarding the present Response or regarding the application generally, the Examiner is invited to telephone the undersigned attorney at the below-provided telephone number.

THIS CORRESPONDENCE IS BEING
SUBMITTED ELECTRONICALLY
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Respectfully submitted,



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